

ABSTRACT

A method for forming a laminated shield to improve the stability and performance of an MR read head and the MR read head formed using that shield. The shield consists of two layers of ferromagnetic material separated by a layer of ruthenium, allowing the ferromagnetic layers to form an antiferromagnetic configuration by means of a quantum mechanical exchange interaction. The antiferromagnetic configuration has a stable domain structure and a magnetization that forms closed loops around the shield edges thereby reducing noise in the readback signal and reducing disturbances to the magnetic state of the sensor element.

2025 RELEASE UNDER E.O. 14176